

Notice of Allowability

Application No.

09/828,947

Examiner

Thanh Y. Tran

Applicant(s)

YAMADA, JUNJI

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 6/28/2004.
2. ☒ The allowed claim(s) is/are 1 and 8-10.
3. ☒ The drawings filed on 4/10/01 are accepted by the Examiner.
4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some* c) ☐ None of the:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).
- * Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.

DETAILED ACTION***Allowable Subject Matter***

1. Claims 1 and 8-10 are allowed.
2. The following is a statement of reasons for the indication of allowable subject matter:

Claim 1 recites, inter alia, “a power semiconductor module comprising: a male screw member comprises a small-diameter portion and a large-diameter portion, the male screw member is mounted penetratingly through the hole of the electrode terminal and engaged threadedly with the female screw hole so that the male screw member is restricted at a position where a lower end of the large-diameter portion abuts against an upper surface of the nut at a side of the small-diameter portion while projecting from an upper surface of the electrode terminal at a side of the large-diameter portion, wherein the electrode plate is electrically connected with the electrode terminal so that the large-diameter portion of the male screw member passes through the hole of the electrode plate, and then engages with the nut”; in the combination with other claimed features.

Claim 9 recites, inter alia, “a power semiconductor module comprising: a male screw member comprises first and second portions including screw threads, and a discontinuous portion which does not include screw threads between the first and second portions at a middle portion of the male screw member, the male screw member is mounted penetratingly through the hole of the electrode terminal and engaged threadedly with the female screw hole so that the male screw member is restricted at a position where the discontinuous portion is disposed adjacent an upper end of the female screw hole of the nut while projecting from an upper surface of the electrode terminal at a side

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of the second portion, wherein the electrode plate is electrically connected with the electrode terminal so that the second portion of the male screw member passes through the hole of the electrode plate, and then engages with the nut”; in the combination with other claimed features.

3. The art of record does not disclose the above limitations, nor would it be obvious to modify the art of record so as to include the above limitations.

Masumoto et al (U.S. 5,646,445) discloses in figure 29 a power semiconductor module comprising terminals 1 & 2, and a male screw member (“bolt”, col. 2, lines 19-20) engaged with female screw hole. However Masumoto does not disclose the electrode terminal is electrically connected with an electrode plate so as to the large-diameter portion (second portion) of the male screw member passes through the hole of the electrode plate, and then engages with the nut.

The admitted prior art of figure 9 (submitted by Applicant) discloses a male screw member passes through the hole of the electrode terminal (83) and electrode plate (97), but it does not disclose the male screw member having a first portion (small-diameter portion) and a second portion (large-diameter portion) or a discontinuous portion.

Masahiro (JP07-279109) discloses a male screw member passes through the hole of the electrode terminal (83), but it does not disclose the male screw member having a first portion (small-diameter portion) and a second portion (large-diameter portion) or a discontinuous portion.

Kamiya (JP 2001206104) discloses a male screw member (as indicated at 70) comprises a small-diameter portion (first portion) (as indicated at 72) and a large-diameter portion (second portion) (as indicated at 71 and 73), the male screw member is

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mounted penetratingly through the hole of a bracket (43) and engaged threadedly with the female screw hole (as indicated at 63) so that the male screw member is restricted at a position where a lower end of the large-diameter portion abuts against an upper surface of the nut (as indicated at 62) at a side of the small-diameter portion while projecting from an upper surface of the bracket at a side of the large-diameter portion. However, Kamiya (JP02001206104) does not disclose *the electrode plate is electrically connected with the electrode terminal* so that the large-diameter portion (second portion) of the male screw member passes through the hole of the electrode plate, and then engages with the nut.

4. The above references do not disclose the above-mentioned limitations in paragraph 2.

5. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

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Contact Information


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thanh Y. Tran whose telephone number is (571) 272-2110. The examiner can normally be reached on Monday through Thursday and on alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kamand Cuneo, can be reached on (571) 272-1957. The fax phone number for the organization where this application or proceeding is assigned is (703) 305-3431.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

TYT

7/9/2004


DAVID ZARNEKE
PRIMARY EXAMINER
7/20/04